National Institute of Environmental Health Sciences

Community assessment for public health emergency response following Hurricane Ike--Texas, 25-30 September 2008

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Abstract:

INTRODUCTION: On 13 September 2008, Hurricane Ike made landfall near Galveston, Texas, resulting in an estimated 74 deaths statewide and extensive damage in many counties. The Texas Department of State Health Services, US Public Health Service, and the Centers for Disease Control and Prevention conducted assessments beginning 12 days following hurricane landfall to identify the public health needs of three affected communities. The results of the assessment are presented, and an example of a type of public health epidemiological response to a disaster due to a natural hazard is provided. METHODS: A one-page questionnaire that focused on household public health characteristics was developed. Using a two-stage cluster sampling methodology, 30 census blocks were selected randomly in three communities (Galveston, Liberty, and Manvel, Texas). Seven households were selected randomly from each block to interview. RESULTS: The assessments were conducted on 25, 26, and 30 September 2008. At the time of the interview, 45% percent of the households in Galveston had no electricity, and 26% had no regular garbage collection. Forty-six percent reported feeling that their residence was unsafe to inhabit due to mold, roof, and/or structural damage, and lack of electricity. Sixteen percent of households reported at least one member of the household had an injury since the hurricane. In Liberty, only 7% of the household members interviewed had no access to food, 4% had no working toilet, 2% had no running water, and 2% had no electricity. In Manvel, only 5% of the households did not have access to food, 3% had no running water, 2% had no regular garbage collection, and 3% had no electricity. CONCLUSIONS: Post-Ike household-level surveys conducted identified the immediate needs and associated risks of the affected communities. Despite the response efforts, a high proportion of households in Galveston still were reportedly lacking electricity and regular garbage pickup 17 days post-storm. The proportion of households with self-reported injury in Galveston suggested the need to enhance public education on how to prevent injuries during hurricane cleanup. Galveston public health officials used the assessment to educate local emergency and elected officials of the health hazards related to lack of basic utilities and medical care in the community. This resulted in the provision of an extensive public health outreach education program throughout the island. The Liberty and Manvel assessment findings suggest that most households in both communities were receiving the basic utilities and that the residents felt "safe". The assessments reassured local health officials that there were no substantial acute public health needs and provided objective information that services were being restored.

Source: Ask your librarian to help locate this item.

Resource Description

Communication: ☑

resource focus on research or methods on how to communicate or frame issues on climate change; surveys of attitudes, knowledge, beliefs about climate change

A focus of content

Communication Audience: ☑

audience to whom the resource is directed

Health Professional, Public

Early Warning System: ☑

resource focus on systems used to warn populations of high temperatures, extreme weather, or other elements of climate change to prevent harm to health

A focus of content

Exposure : ☑

weather or climate related pathway by which climate change affects health

Extreme Weather Event, Human Conflict/Displacement

Extreme Weather Event: Hurricanes/Cyclones

Geographic Feature: ☑

resource focuses on specific type of geography

Ocean/Coastal

Geographic Location: ☑

resource focuses on specific location

United States

Health Impact: ☑

specification of health effect or disease related to climate change exposure

Injury

Mitigation/Adaptation: ☑

mitigation or adaptation strategy is a focus of resource

Adaptation

Population of Concern: A focus of content

Population of Concern: ☑

populations at particular risk or vulnerability to climate change impacts

Low Socioeconomic Status

Resource Type: ☑

format or standard characteristic of resource

Research Article

Timescale: ☑

time period studied

Time Scale Unspecified

Vulnerability/Impact Assessment: ☑

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content